areca® At the Heart of Storage

ARC-1882i/1882x/1882LP

(8 Ports 6Gb/s SAS/SATA RAID Adapters)

ARC-1882ix-12/16/24

(16-28 Ports 6Gb/s SAS/SATA RAID Adapters)

SAS 2.0 is designed for much higher speed data transfer than previous available and backward compatibility with SAS 1.0. The 6Gb/s SAS interface supports both 6Gb/s and 3Gb/s SAS/SATA disk drives for data-intensive applications and 6Gb/s or 3Gb/s SATA drives for low-cost bulk storage of reference data. The ARC-1882 family includes 8 ports low profile as well as full height 12/16/24 internal ports with additional 4 external ports models.

Highlights

- Supports up to (128) 6Gb/s SAS, SATA or SSD drives using 6Gb/s SAS expanders
- 6Gb/s throughput at each drive ports
- Support up to 4GB DDR3-1333 cache (ARC-1882ix-12/16/24)
- Multiple RAID 0 and RAID 10(1E) support (RAID 00 and RAID100)
- Online capacity expansion, RAID level/stripe size migration
- Online volume set growth
- Redundant flash image for adapter availability
- Greater than 2TB capacity per disk drive support
- Support greater than 2TB per volume set and battery backup module (BBM)
- SES2, SMP and SGPIO enclosure management
- Support intelligent power management to save energy and extend service life.
- Broad operating support including Windows, Linux (open source), FreeBSD(open source), Soaris(open source), Mac and VMware

Unparalleled Performance

The 6Gb/s SAS RAID controllers raise the standard to higher performance levels with several enhancements including new high performance dual core ROC Processor, a DDR3-1333 memory architecture and high performance PCIe 3.0/2.0 x8 lane host interface bus interconnection. The low profile controllers by default support on-board 1G of ECC DDR3-1333 SDRAM memory. The ARC-1882ix-12/16/24 controllers each include one 240-pin DIMM socket with default 1GB of ECC DDR3-1333 single rank registered SDRAM, upgrade to 4GB. The optional battery backup module provides power to the cache if it contains data not yet written to the drives when power is lost. The test result is against overall performance compared to other 6Gb/s SAS RAID controllers. The powerful new ROC processors integrated 8 6Gb/s SAS ports on chip delivers high performance for servers and workstations.

Unsurpassed Data Availability

As storage capacities continue to rapidly increase, users need greater level of disk drive fault tolerance, which can be implemented without doubling the investment in disk drives. The RAID6 can offer fault tolerance greater that RAID 1 or RAID 5 but only consumes the capacity of 2 disk drives for distributed parity data.

The 6Gb/s SAS RAID controllers with extreme performance RAID 6 engine installed provide the highest RAID 6 feature to meet this requirement. The controller can concurrently compute two parity blocks and get very similar RAID 5 performance.

The 6Gb/s SAS RAID controllers can also provide RAID levels 0, 1, 1E, 3, 5, 6, 10, 30, 50, 60, Single Disk or JBOD for maximum configuration flexibility. Its high data availability and protection derives from the following capabilities: Online RAID Capacity Expansion, Array Roaming, Online RAID Level / Stripe Size Migration, Global Online Spare, Automatic Drive Failure Detection, Automatic Failed Drive Rebuilding, Disk Hot-Swap, Online Background Rebuilding, Instant Availability/Background Initialization, Auto Reassign Sector, Redundant Flash Image and Battery Backup Module. Greater than Two TB Support allows for very large volume set application in 64-bit environment such as data-mining and managing large databases.

Maximum Interoperability

The 6Gb/s SAS RAID controller support broad operating system including Windows 7/2008/Vista/XP/2003, Linux (Open Source), FreeBSD (Open Source), Solaris (Open Source), Mac, VMware and more, along with key system monitoring features such as enclosure management (SES-2, SMP, & SGPIO) and SNMP function. Our products and technology are based on extensive testing and validation process; leverage Areca SAS or SATA RAID controller field-proven compatibility with operating systems, motherboards, applications and device drivers.

Easy RAID Management

The controllers contain an embedded McBIOS RAID manager that can access via hot key at M/B BIOS boot-up screen. This pre-boot McBIOS RAID manager can use to simplify the setup and management of RAID controller. The controller firmware also contains a browser-based McRAID storage manager which can be accessed through the Ethernet port or ArcHttp proxy server in Windows, Linux, FreeBSD and more environments. The McRAID storage manager allows local and remote to create and modify RAID set, volume set, and monitor RAID status from standard web browser. The Single Admin Portal (SAP) monitor utility can support one application to scan multiple RAID units in the network.

Adapter Architecture

- Dual Core RAID-on-Chip (ROC) 800 MHz processor
- PCIe 3.0/2.0 x8 lane host interface (PCB version 3.0 supports PCIe
- 1GB on-board DDR3-1333 SDRAM with ECC (ARC-1882LP/1882i/1882x)
- One 240-pin DIMM socket for DDR3-1333 ECC single rank registered SDRAM module using x8 or x16 chip organization, upgrade from 1GB (default) to 4GB (ARC-1882ix-12/16/24)
- Write-through or write-back cache support
- Support up to 4/8/12/16/24 internal or 4/8 external 6Gb/s SAS ports
- Multi-adapter support for large storage requirements
- BIOS boot support for greater fault tolerance
- BIOS PnP (plug and play) and BBS (BIOS boot specification) support
- Support EFI BIOS for Mac Pro
- NVRAM for RAID event & transaction log
- Redundant flash image for controller availability
- Battery Backup Module (BBM) ready (Option)
- RoHS compliant

RAID Features

- RAID level 0, 1, 10(1E), 3, 5, 6, 30, 50, 60, Single Disk or JBOD
- Multiple RAID 0 and RAID 10(1E) support (RAID 00 and RAID100)
- Multiple RAID selection
- Online array roaming
- Offline RAID set
- Online RAID level/stripe size migration
- Online capacity expansion and RAID level migration simultaneously
- Online volume set growth
- Instant availability and background initialization
- Support global and dedicated hot spare
- Automatic drive insertion/removal detection and rebuilding
- Greater than 2TB capacity per disk drive support
- Greater than 2TB per volume set (64-bit LBA support)
- Support intelligent power management to save energy and extend service life
- Support NTP protocol synchronize RAID controller clock over the on board Ethernet port

• Electrical

Power Dissipation	12V +3.3V
ARC1882i/x/LP	12.51W (11.6W+0.91W)
ARC1882ix-12/16/24	28.81W (26.91W+1.9W)

Monitors/Notification

- System status indication through global HDD activity/fault connector, individual activity/fault connector, LCD/I2C connector and alarm buzzer
- SMTP support for email notification
- SNMP support for remote manager
- Enclosure management (SES-2, SMP and SGPIO) ready

RAID Management

- Field-upgradeable firmware in flash ROM

In-Band Manager

- Hot key "boot-up" McBIOS RAID manager via M/B BIOS
- Web browser-based McRAID storage manager via ArcHttp proxy server for all operating systems
- Support Command Line Interface (CLI)
- API library for customer to write monitor utility
- Single Admin Portal (SAP) monitor utility

Out-of-Band Manager

- Firmware-embedded web browser-based McRAID storage manager, SMTP manager, SNMP agent and Telnet function via Ethernet port
- API library for customer to write monitor utility
- Support push button and LCD display panel (option)

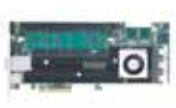
Operating System

- Windows 7/2008/Vista/XP/2003
- Linux
- FreeBSD
- VMware
- Solaris 10/11 x86/x86_64
- Mac OS X 10.4.x/10.5.x/10.6.x/10.7.x/10.8.x

For more information & latest supported OS listing visit **www.areca.com.tw**

• Environment

Operating	Temperature: +5˚c to +60˚c Humidity: 15-80%, non-condensing
Storage Temperature	Temperature: -40˚c to 70˚c Humidity: 5-90%, non-condensing

Model Name	ARC-1882i	ARC-1882x	ARC-1882LP	ARC-1882ix-12	ARC-1882ix-16	ARC-1882ix-24
I/O Processor	Dual Core RAID-on-Chip 800MHz					
On-Board Cache	1GB on-board DDR3-1333 SDRAM			One 240-pin DIMM socket with default 1GB of ECC DDR3-1333 single rank registered SDRAM, upgrade to 4GB		
Drive Connector	2 x SFF-8087	2 x SFF-8088	1 x SFF-8087 1 x SFF-8088	3 x SFF-8087 1 x SFF-8088	4 x SFF-8087 1 x SFF-8088	6 x SFF-8087 1 x SFF-8088
Drive Support	Up to 128 6Gb/s and 3Gb/s SAS/SATA HDDs/SSD, Using 6Gb/s SAS Expander					
Management Port	In-Band: PCIe /Out-of-Band: BIOS, LCD and LAN Port					
Enclosure Ready	Individual Activity/Fault Header, SGPIO, SMP and SES2					
BBM Support	ARC-6120BA-T121			ARC-6120BA-T121		
Power Dissipation (12V +3.3V)	12.51 (11.6W + 0.91W)			28.81 (26.91W + 1.9W)		
Form Factor(LxH)	Low Profile: 169.5 x 64.4 mm			Full Height: 250 x 98.4 mm		
Products View						

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